

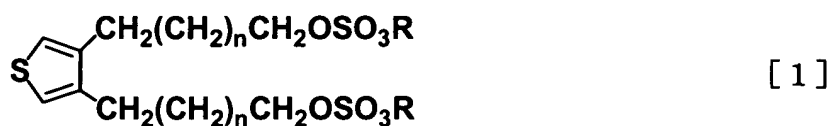
**AMENDMENTS TO THE SPECIFICATION****IN THE SPECIFICATION:**

On page 2, line 30, and continuing to page 5, line 6 of the present specification, please replace paragraph [0008] with the following paragraph:

[0008]

The present invention covers any of the following.

(1) 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [1] below.



(where R denotes a hydrogen atom, alkali metal atom, or alkaline earth metal atom, and n denotes an integer of 1 to 3.)

(2) 3,4-bis(1-hydroxyalkyl)thiophene represented by formula [2] below.



(where n denotes an integer of 1 to 3.)

(3) 3,4-bis(1-sulfoxypropyl-3-yl)thiophene represented by formula [3] below.



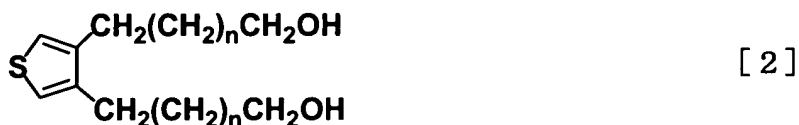
(where R denotes a hydrogen atom, alkali metal atom, or alkaline earth metal atom.)

(4) 3,4-bis(1-hydroxypropyl-3-yl)thiophene represented by formula [4] below.



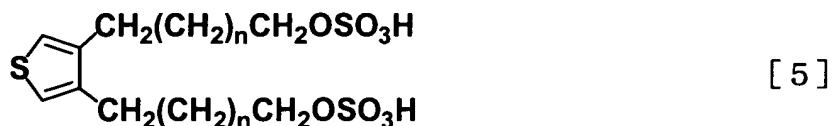
(5) Sulfoxyalkylthiophene defined in (1) or (3) above wherein the alkali metal atom is sodium or potassium.

(6) A process which comprises steps of reacting 3,4-bis(1-hydroxyalkyl)thiophene represented by formula [2] below



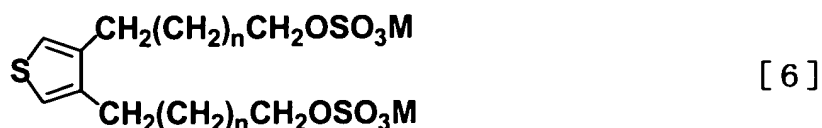
(where n denotes an integer of 1 to 3.)

with a sulfur trioxide compound to give 3,4-bis(1-sulfoxyalkyl)thiophene represented by the formula [5] below.



(where n is defined as above.)

and reacting it with an alkali metal compound or alkaline earth metal compound to give a metal salt of 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [6] below.



(where M denotes alkali metal atom or alkaline metal atom, and n is defined as above.)

(7) A process which comprises a step of reducing 3-[4-(3-hydroxy-prop-1-ynyl)-thiophen-3-yl]-prop-2-yn-1-ol (3,4-HTPO for short hereinafter) represented by formula [7] below



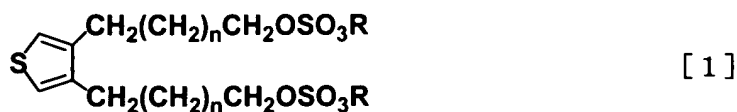
to give 3,4-bis(1-hydroxy-propyl-3-yl)thiophene (3,4-BHT for short hereinafter) represented by formula [4] below.



- (8) The process for producing a metal salt of sulfoxyalkylthiophene as defined in (6) above, wherein the alkali metal atom is sodium or potassium.
- (9) The process for producing a metal salt of sulfoxyalkylthiophene as defined in (6) above, wherein the sulfur trioxide compound is sulfur trioxide, sulfur trioxide·1,4-dioxane complex, sulfur trioxide·DMF (N,N-dimethylformamide) complex, or sulfur trioxide·pyridine complex.

**AMENDMENTS TO THE CLAIMS**

1. (Original) 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [1] below:



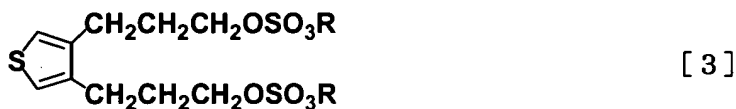
(where R denotes a hydrogen atom, alkali metal atom, or alkaline earth metal atom, and n denotes an integer of 1 to 3.)

2. (Original) 3,4-bis(1-hydroxyalkyl)thiophene represented by formula [2] below:



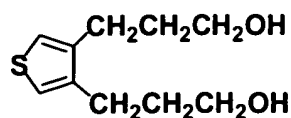
(where n denotes an integer of 1 to 3.)

3. (Original) 3,4-bis(1-sulfoxypropyl-3-yl)thiophene represented by formula [3] below:



(where R denotes a hydrogen atom, alkali metal atom, or alkaline earth metal atom.)

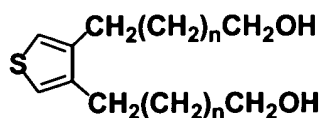
4. (Original) 3,4-bis(1-hydroxypropyl-3-yl)thiophene represented by formula [4] below:



[ 4 ]

5. (Currently amended) ~~Sulfoxyalkynylthiophene~~ Sulfoxyalkylthiophene defined in claim 1 ~~or 3~~ above wherein the alkali metal atom is sodium or potassium.

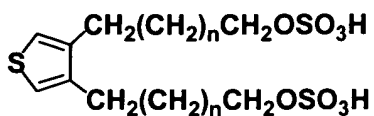
6. (Original) A process which comprises steps of reacting 3,4-bis(1-hydroxyalkyl)thiophene represented by formula [2] below:



[ 2 ]

(where n denotes an integer of 1 to 3);

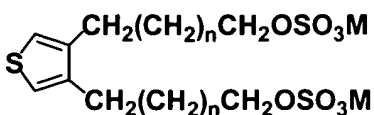
with a sulfur trioxide compound to give 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [5] below:



[ 5 ]

(where n is defined as above);

and reacting it with an alkali metal compound or alkaline earth metal compound to give a metal salt of 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [6] below:



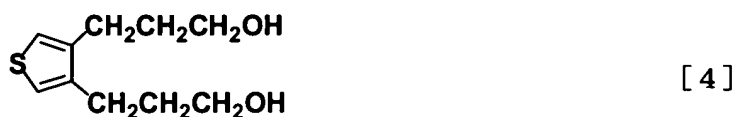
[ 6 ]

(where M denotes alkali metal atom or alkaline earth metal atom and n is defined as above.)

7. (Original) A process which comprises a step of reducing 3-[4-(3-hydroxy-prop-1-ynyl)-thiophen-3-yl]-prop-2-yn-1-ol represented by formula [7]:



to give 3,4-bis(1-hydroxy-propyl-3-yl)thiophene represented by formula [4] below.



8. (Currently amended) The process for producing a metal salt of ~~sulfoxyalkynylthiophene~~ sulfoxyalkylthiophene as defined in claim 6, wherein the alkali metal atom is sodium or potassium.
9. (Currently amended) The process for producing a metal salt of ~~sulfoxyalkynylthiophene~~ sulfoxyalkylthiophene as defined in claim 6, wherein the sulfur trioxide compound is sulfur trioxide, sulfur trioxide·1,4-dioxane complex, sulfur trioxide·DMF (N,N-dimethylformamide) complex, or sulfur trioxide·pyridine complex.

10. (New) Sulfoxyalkylthiophene defined in claim 3 above wherein the alkali metal atom is sodium or potassium.